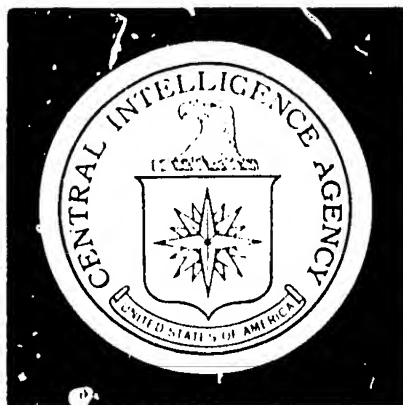


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# Intelligence Memorandum

*North Vietnam's Capability To Continue To Wage War*

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CENTRAL INTELLIGENCE AGENCY  
Directorate of Intelligence  
14 May 1972

INTELLIGENCE MEMORANDUM

North Vietnam's Capability  
To Continue To Wage War

Introduction

1. The purpose of this memorandum is to assess North Vietnam's physical and material capabilities to continue with the war. The analysis focuses primarily on Hanoi's ability to continue to provide the human and logistic resources needed to support increased combat activity against Allied forces. The parameters of the analysis are those provided in our recent analyses of North Vietnam's strategic options through 1972.

2. The manpower requirements range from the 100,000 infiltrators needed to support a continuation of the war at the low level characteristic of 1970 to the maximum requirement of 250,000-300,000 needed to support a general offensive throughout South Vietnam and Cambodia. The logistic inputs to support the same strategies range from 66,000 tons annually for the low combat strategy to an estimated 80,000-88,000 tons for the general offensive strategy.

3. These parameters are used as an expression of the maximum strains that might be put on Hanoi's capabilities. It should be remembered that as US forces withdraw, both the logistic and manpower inputs needed for any of Hanoi's strategy options will decline.

4. With the exception of its manpower, Hanoi has few of the resources needed to support the war. Consequently, the analysis also presents a brief survey of the general economic situation in North Vietnam and the role of North Vietnam's Communist allies in providing military and economic aid.

I. Impact of the War on North Vietnam's Manpower

5. During the past six years, Hanoi has had to shoulder an increasingly heavy burden in its manpower commitment to the war. To put this burden into perspective, we have related Hanoi's military manpower requirements to its reserves of physically-fit manpower. The analysis then considers the extent to which Hanoi's manpower reserves could continue to support its strategy options.

Requirements Versus Reserves, 1965-70

6. Approximately 1 million North Vietnamese men were inducted into military service during 1965-70, a result of both the substantial buildup in the North Vietnamese armed forces and the heavy casualties sustained during the war. The size of the army was doubled in the period 1965-66 in response to the massive increase in the US presence in South Vietnam and the bombing of North Vietnam. Continued heavy recruitment in 1967 and 1968 was in preparation for, and to offset the casualties resulting from, the major Communist offensives during 1968. In 1969 the rate of induction dropped sharply (see Table 1) as the Communists shifted to

Table 1

Estimated Number of Men Inducted  
into the North Vietnamese Army, by Year

<u>Thousand Men</u>	
<u>Year</u>	<u>Total</u>
1965	155
1966	260
1967	185
1968	215
1969	80
1970	200
	(preliminary)

a protracted war strategy. In 1970 the induction rate rose again following the ouster of Prince Sihanouk of Cambodia and the extension of the war to the whole of Indochina, but it was probably still below the peak level of the 1966-68 period. As a result of these induction activities, North Vietnam's civilian manpower reserve during 1965-70 declined by about one-third to one-half, depending upon whether the reserve is defined as the 15-39 age group, from which draftees are known to have been taken, or the more narrow 17-35 age group, which is apparently the "legal" draft age category. The tabulation below illustrates the decline in the manpower reserve during 1965-70:

<u>Year</u>	<u>Thousand Men <sup>a/</sup></u>	
	<u>15-39</u>	<u>17-35</u>
1964	2,000	1,600
1965	1,900	1,400
1966	1,700	1,200
1967	1,600	1,100
1968	1,400	900
1969	1,400	900
1970	1,300	800

*a. Physically fit males, within the indicated age groups, who are not in the armed forces.*

7. Although substantial drawdowns have been made from North Vietnam's manpower reserves, the remaining civilian pool is still quite large in relation to the size of North Vietnam's armed forces. In relative terms, Hanoi has managed to sustain the war with a much smaller commitment of manpower than has Saigon. As shown in the tabulation below, Hanoi's armed forces at about 600,000 are equal to only one-fifth the total number of males aged 18-39 in the population. This is less than the 46% committed by South Vietnam at present and selected other countries during World War II and the Korean War.

<u>Country</u>	<u>Month/Year</u>	<u>Million Men</u>		<u>Percent in the Armed Forces</u>
		<u>Males 18-39</u>	<u>Armed Forces</u>	
United States	Jul 45	24.7	12.1	49
United Kingdom	Jun 45	8.3	4.7	57
Germany	Jun 44	10.3	9.6	93
South Korea	Dec 53	3.1	0.7	23
North Korea	Dec 53	1.1	0.3	27
South Vietnam	Dec 70	2.4	1.1	46
North Vietnam	Dec 70	2.9	0.6	21

### Future Manpower Requirements

8. The existing manpower reserve in North Vietnam is adequate to support any of the strategy options Hanoi might choose through 1972. If during the remainder of 1971 and 1972 Hanoi should stay with its protracted war strategy, its manpower requirements could be met by holding inductions\* to 100,000 per year without any drawdown of its reserves. If, however, Hanoi were to embark on a course that would, as in 1968, require the commitment of 250,000 to 300,000 inductees, the reserve would decline substantially, as shown below:

<u>Thousand Men</u>						
<u>Year</u>	<u>Entering Reserve c/</u>	<u>Leaving Reserve d/</u>	<u>Reserves at Year End</u>			
			<u>Low Combat Strategy a/</u>		<u>High Combat Strategy b/</u>	
			<u>Age 15-39</u>	<u>Age 17-35</u>	<u>Age 15-39</u>	<u>Age 17-35</u>
1971	162	67-68	1,300	800	1,100	600
1972	166	65-66	1,300	800	900	400

- a. Supported by induction of 100,000 men.  
 b. Supported by induction of 300,000 men.  
 c. At age 15.  
 d. Including those reaching age 40 and those leaving the reserve through death or decline in physical fitness.

\* Inductions are equated in this analysis with infiltration on the assumption that only nominal changes would be made in the size of the armed forces kept within North Vietnam.

9. These calculations undoubtedly overstate Hanoi's capabilities. There probably is a hard core of physically fit males of draft age who would not be subject to induction except in an all-cut emergency, such as an invasion of North Vietnam. This would include the most essential people in the economy and some of the ethnic minority group members unsuited for military service because of language and cultural barriers. Further downward adjustments might be made to allow for the possibility that estimates of induction in 1965-70 might have been understated somewhat. These factors taken together would suggest that if the regime opted for a high level of combat and carried out such a strategy for a prolonged period of time, the reserve of draftable men would be very low by the end of 1972. However, it should be borne in mind that even in this extreme case, the regime would still have available for induction in 1973 a new crop of approximately 130,000 17-year olds and an even larger number if the pool were expanded to include youths below the 17-year age limit.

10. In sum, North Vietnam's civilian manpower pool could sustain indefinitely a continuation of low-level combat. A very high level of combat would make inroads on the pool but would not deplete it through the period of this analysis.

#### Hanoi's View of Manpower Constraints

11. Hanoi, of course, must look to other considerations than mere numbers in making any decision involving the commitment of its manpower. North Vietnam has provided an enormous input of manpower for the war in South Vietnam. During the period 1965-70, losses are estimated to have been on the order of 600,000 men. During the same period, when the able-bodied pool of manpower in the 15-39 age group should have grown by several hundred thousand, it has been reduced from 1.9 million to 1.3 million. The civilian labor force, estimated to have been about 9.4 million in January 1965, grew to only 9.9 million in 1971. Had there been no war, the labor force would have grown to an estimated 10.6 million. The burden of the loss fell almost entirely on the agricultural labor force and was less than the number of

men called to the colors only because of an abnormal increase in the female labor force. The wholesale call-up of able-bodied men no doubt had a qualitative as well as a quantitative effect on the labor force. The diversion of manpower to military service combined with the fact that the economy has not yet recovered fully from the disruptions caused by bombing explain why gross national product (GNP) in 1970 was only \$1.4 billion, some \$0.2 billion below the 1964 total. Had there been no war, GNP could have been up by \$0.5 billion to an estimated \$2.1 billion by 1970, a substantial portion of which would have been due to the normal growth of the labor force.

12. By any standard these are losses which must not be viewed lightly in Hanoi. The heavy manpower losses sustained during the 1968 offensives were a major factor in the decisions to adopt the protracted warfare strategy of 1969-70. Despite the past drain on manpower, there is no convincing evidence that Hanoi has decided that the manpower costs of the war are too high a price. There is, in fact, evidence that North Vietnam is willing to continue inputs at high levels and if necessary to augment them. There has been abundant evidence during the past year of an acceleration in the recruitment and conscription of soldiers, and several such "conscription" drives have been carried out in recent months. The regime has specifically reiterated the need to build up "reserves" in support of the military activity in the south. We cannot judge specifically what price Hanoi would be willing to pay in manpower terms, but we doubt that it would be as high as that paid in 1968.

13. The weakening of public morale as the human costs of the war are increasingly brought home to the people could also be a factor deterring the regime's mobilization plans, but most signs we observe point to the contrary.

14. While we have never been confident of our ability to gauge with precision morale problems in North Vietnam, there are definite periods in which the regime manifests heightened concern about such problems -- either by passing new

security regulations or by devoting unusual propaganda attention to issues that seriously affect morale. The reports of captured prisoners infiltrated from the North also help over time to identify problem areas and issues. None of these barometers has registered any significant change in the past six months, and we, therefore, do not believe morale considerations are a significant constraint on Hanoi today. The morale problems that are visible in North Vietnam reflect malaise and indifference rather than open defiance and circumvention. Such problems have been with the North Vietnamese for years but have never reached the level where they imposed a constraint on the regime's ability to prosecute the war.

15. Even without the charisma of Ho Chi Minh and in the face of new and unusual demands for support of essentially foreign wars, the Hanoi regime continues to demonstrate a remarkable ability to get young men into the armed forces, to keep its working population plugging away for small material reward, and in general to extract a whole host of sacrifices without giving much in return. The post-Ho leadership is paying lip service to the need for improvements in living conditions, allowing the peasant to keep more of his grain, giving the factory worker piece wages, and in general looking the other way in the face of most minor indiscretions and infractions of law. To the outsider, the North Vietnamese people seem reasonably content with what they get. There are continuing reports of corruption, malingering, draft dodging, and plain inefficiency throughout the country, but the evidence suggests that the severity of the problem is fairly constant and the regime is prepared to tolerate this level.

#### North Vietnam's Military Training Capability

16. Perhaps the most direct limitation on North Vietnam's ability to support the large manpower commitment implied by the "general offensive" strategy is the capability to train recruits. North Vietnam conducts basic training for recruits both in full-time training units and in regular infantry units that are given a partial responsibility for training. The extent to which the latter units are used for basic training would

depend on requirements during any given period, but the use of these units gives flexibility to the army's capacity for training. The three regular training divisions and one training group have an estimated capacity to train slightly more than 25,000 recruits in one training cycle, or an annual capacity to train over 100,000 recruits in a three-month training cycle. The nine regular infantry divisions and five regular independent infantry regiments probably could train as many as 140,000 recruits annually and still perform their primary offensive or defensive mission. In addition, most recruits destined for specialized units, such as artillery and antiaircraft artillery, receive their basic training in these specialized units. Thus the estimated upper limit for providing basic training to new recruits would be on the order of 250,000 annually. If Hanoi were to opt for the general offensive strategy, at least a year and possibly more would elapse before all the troops necessary to support such a strategy could be adequately trained for combat. The apparently high rate of induction in 1970, however, would indicate that North Vietnam may be well along in its military training programs.

## II. The Rear Supply Base

17. A major and essential part of the supplies with which the enemy has waged war in southern Laos, South Vietnam, and Cambodia must come from or through North Vietnam. The relatively modest tonnages directly related to the war-making capability of the enemy forces in these theaters are estimated for the 1971-72 period at 66,000 tons annually for the low combat strategy and at some 80,000-88,000 tons for the general offensive strategy. Some of these supplies will be provided by North Vietnamese industry and agriculture, but much will come from North Vietnam's allies -- the USSR and Communist China.

18. North Vietnam's capacity for the production of war-making and war-supporting goods is small. The ordnance branch of industry produces a limited number of light infantry weapons, mortars, grenades, and some ammunition, but no other types of military hardware. From the [redacted]

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[redacted] activities described in open literature, it is evident that the ordnance industry is primarily engaged in repair of weapons and only nominally engaged in production. Domestically produced war-supporting goods include foodstuffs, materials for uniforms, and pharmaceuticals. Repair shops of the machine building industry are capable of maintaining all forms of transportation used to carry men and supplies to the south, but the country cannot produce the large quantities of vehicles required by the war effort.

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19. Thus North Vietnam is heavily dependent on foreign aid from Communist countries. During 1965-70, imported foodstuffs accounted for as much as 15% of annual food supplies; virtually all military equipment had to be imported; and the lack of resources or of domestic capability necessitated imports of all the petroleum, vehicles, steel, and most of the machinery that was needed. Reconstruction of bomb damage would be practically impossible without foreign technicians and imported industrial equipment.

20. Except for manpower to fill military induction requirements and to man the logistics pipeline, therefore, North Vietnam's economy contributed

minor material resources to the war effort. A minimum viability in the economy is mandatory, however, to preserve order and stability in the country's social structure, to sustain an adequate standard of living for the populace, and to insure for the regime a relative degree of independence in the conduct of international affairs. In this regard the government's task is made easier by the simplicity of the economy, which is predominantly agricultural with a substantial small-scale industrial base and the nucleus of a modern industrial sector.

#### Current Status of the Economy

21. In the two years since the bombing halt, North Vietnam's economy has made modest overall advances. Although output has not yet reached the pre-bombing level, the economy is in a relatively better position now to contribute its share to the war in the south than it was two to three years ago. By the end of 1970, output had recovered to about 85%-90% of pre-bombing levels in both industry and agriculture in contrast to the low points of 65% for industry in 1967 and 80% for agriculture in 1968. GNP increased by about 6% in the past year, reaching an estimated \$1.4 billion, or 90% of the GNP in 1964 of \$1.6 billion. At the current growth rate, total output could reach pre-bombing levels in two more years.

22. Hanoi has not made restoration of the economy a first-priority item, reflecting both the concentration on the war and, obliquely, the relative unimportance of the domestic economy to North Vietnam's ability to continue waging war. The slow rate of recovery may also be attributed to a combination of factors such as the drain of trained manpower into military service, failure to eliminate production bottlenecks, the inefficiencies resulting from dispersal of industry, and a reluctance to rebuild without assurances that the bombing will not be renewed.

#### Industry

23. Recovery in industry continues to be hampered by slow progress in repairing damage to modern plants, particularly electric power stations. The gross value of industrial output, however, reportedly

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increased by 5.5% in 1969 and about 6% in 1970, bringing total industrial output to an estimated 85% of the 1964 level. Output of local industry, which contributed about one-half the value of total industrial output prior to the bombing, reportedly increased during the past year by 4.3%. The decline and subsequent partial recovery of production in some of the modern industrial branches is shown in Table 2.

#### Transportation

24. Steady improvement and expansion of transportation facilities continued in 1970.\* Enlargement of shipping berths and new warehouses at the port of Haiphong neared completion. A substantial railroad realignment project was finished on a ten-mile section of the Dong Dang-Hanoi line, near the border with Communist China. In the Panhandle of North Vietnam, construction continued on new branches and extensions of the two petroleum pipelines extending into Laos. In addition, a new and larger pipeline system was begun in the northern part of the country near Hon Gai. The type of construction involved suggests that the system will be a permanent oil transport medium, providing a possible alternative to the current oil import procedure at Haiphong.

#### Labor and Productivity

25. Efforts are being made to augment the labor force in the face of continued manpower drains. College and vocational students are required to engage in production on a part-time basis, and a conference was called in February 1971 to mobilize more women for the labor force. In addition, until troops are sent out of North Vietnam they are required to take part in construction, industrial production, and agricultural harvests.

26. Much stress also was placed on reducing the inefficiencies engendered by decentralization and

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\* Further discussion of the buildup of logistic facilities is presented in Section IV.

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Table 2  
Indicators of Industrial Output in North Vietnam

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
	<u>Million Kilowatt Hours</u>					
Electric power	570	520	300	350	450	510
	<u>Thousand Metric Tons</u>					
Coal	4,000	3,600	2,500	2,800	2,800	2,900
Cement	660	665	200	120	250	330
Apatite	853	350	200	250	250	350
Chromite ore	12	Negl.	Negl.	5	3	2
Iron ore	400	300	80	30	30	100
Pig iron	200	150	40	15	15	50

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lax management practices of the bombing years. Criticism of low labor productivity began in 1968 and rose to a crescendo in 1970. The regime is trying to improve the situation by stimulating labor and management to greater efforts. Wage schedules are being reviewed to reflect skill and effort more realistically. In industry and construction, piecework wages have been instituted and probably will spread rapidly. Plans also call for a transfer of people from administrative duties to production activity.

#### Agriculture

27. Agricultural output rose in 1970, with output of milled rice estimated at 2.9 million tons, about 7%-8% above output in 1969 and not far short of the 3.0 million tons produced in 1965. Production of subsidiary food crops is believed to have paralleled the recovery in rice production. The regime has been only marginally successful in getting the peasants to resume cultivation of industrial crop acreage left fallow during the bombing years, but the regime in 1970 claimed increases in acreage as well as yields of a number of crops in this category, including peanuts, sugar cane, tobacco, and cotton.

### III. Support From North Vietnam's Allies

28. Imports from Communist countries, financed primarily by credits and grants, have provided critical support for North Vietnam's industrial development program and for reconstruction of bomb-damaged facilities, as well as for maintaining minimum standards of living for the populace. During 1955-64, Communist economic aid amounting to \$950 million financed about two-thirds of North Vietnam's imports and provided the capital and goods necessary for the development of North Vietnam's modern industrial base (see Table 3). During 1965-70, economic aid in excess of \$2 billion financed about 90% of North Vietnam's imports. In addition to developmental aid, North Vietnam has had to rely heavily on commodity assistance to offset shortfalls in domestic output and to maintain an adequate level of consumer welfare. Imports of foodstuffs soared from less than 80,000 metric tons in 1966 to nearly 800,000 tons in 1968 when imports provided nearly one-sixth of North Vietnam's total food supply. Imports of metals and metal products, machinery and equipment, and transportation equipment more than tripled in quantity and rose even faster in value during 1965-70.

#### War-Making Goods

29. Estimated deliveries of military aid in 1970 fell to \$155 million from \$225 million in 1969, continuing the downward trend from the 1967 peak of \$650 million. Communist China for the first time became the predominant supplier of military aid as deliveries from the USSR dropped even more precipitously than deliveries from China. China provided about \$85 million of military aid in 1970, accounting for about 55% of the total, while Soviet aid amounted to about \$70 million. The East European Communist countries continued to supply only negligible amounts of military aid. Military aid from China in 1970 was down to about 60% of the 1967 peak level of \$145 million, while Soviet military aid was less than 15% of its 1967 peak level of \$505 million.

Table 3

## Estimated Communist Aid to North Vietnam

	Million US \$							
	<u>1954-64</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970 <sup>a/</sup></u>	<u>Total</u>
Economic aid	<u>950</u>	<u>150</u>	<u>275</u>	<u>380</u>	<u>480</u>	<u>470</u>	<u>535</u>	<u>3,240</u>
USSR	365	85	150	200	240	250	360	1,650
Communist China	455	50	75	80	100	90	95	945
Eastern Europe	130	15	50	100	140	130	80	645
Military aid <sup>b/</sup>	<u>140</u>	<u>270</u>	<u>455</u>	<u>650</u>	<u>390</u>	<u>225</u>	<u>155</u>	<u>2,290</u>
USSR	70	210	360	505	290	120	70	1,625
Communist China	70	60	95	145	100	105	85	660
Eastern Europe	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	Negl.	5 <sup>c/</sup>
Total aid	<u>1,090</u>	<u>420</u>	<u>730</u>	<u>1,030</u>	<u>870</u>	<u>695</u>	<u>690</u>	<u>5,530</u>
USSR	435	295	510	705	530	370	430	3,275
Communist China	525	110	170	225	200	195	180	1,605
Eastern Europe	130	15	50	100	140	130	80	650

a. Preliminary.

b. Military data show value at Soviet foreign trade prices of weapons, other military equipment, and ammunition. They exclude aid for the construction of military installations and defense-related facilities.

c. The cumulative value of deliveries from Eastern Europe.

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War-Supporting Goods

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32. Deliveries of economic and military aid have served to insure adequate stockpiles of essential materials as well as to meet current requirements. Although no precise quantification of North Vietnam's reserves of essential economic or military goods is available, there is a great deal of evidence to support the general conclusion that stockpiles in general are sufficient to satisfy requirements for at least six months. Except for food and fertilizer, Hanoi probably has ample supplies of economic goods. For example, it appears likely that inventories of trucks and other war-supporting material are maintained at levels sufficient to permit drawdowns to meet any foreseeable contingencies. Petroleum supplies are estimated to be equivalent roughly to three months' consumption.

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Outlook

33. Both Moscow and Peking have indicated their willingness to continue deliveries of economic aid to North Vietnam and to expand deliveries if necessary. Agreements have been signed to provide economic, technical, and military assistance to North Vietnam through 1971 from all its major aid suppliers, and the Chinese even signed a supplementary aid agreement with North Vietnam following the South Vietnamese incursion into Laos.

34. There is no doubt that Communist countries are capable of supplying Hanoi with whatever it needs to pursue the war at present levels or to expand the fighting to the point where either manpower or logistics constraints would come into play. For example, China delivered 150,000 tons of grain to North Vietnam in 1970, down 270,000 tons from the 1968 level because of a slight recovery in North Vietnam's production of rice and increased imports of wheat flour from the USSR. If Peking were to increase deliveries to the 1968 level, enough additional food would be provided, other things being equal, to offset the production that would be forgone by the withdrawal of 200,000 men from the agricultural labor force for military service.

35. While we know much less about the Soviet and Chinese Communist military assistance activities and plans than about their economic aid to North Vietnam, it seems clear that, without question, the Communist countries are capable of providing North Vietnam through mid-1972 with the military equipment needed to continue the war at present levels or to expand the action to the point where North Vietnamese manpower or logistics constraints would become operative. The 1970 level of military aid is less than 25% of the 1967 peak, and deliveries could quickly be expanded to meet any likely increase in the level of military activity. In the event that either of North Vietnam's major allies were to demur -- for political reasons -- from meeting Hanoi's economic and military supply needs for the type of war it is fighting in South Vietnam, the other could easily go it alone.

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#### IV. North Vietnam's Logistical Base

36. During the past year and a half, the loss of the Sihanoukville route as well as the active air and ground challenges to the enemy's use of the Laotian Panhandle have placed important obstacles in the way of North Vietnam's support for its troops in Cambodia and South Vietnam. However, the lesson that the logistical history of the Indochina war has taught is that the enemy has been willing and able throughout to commit the necessary resources to maintain a viable, flexible, and sometimes redundant system through which to channel supplies to the combat arenas in South Vietnam, Cambodia, and Laos. Throughout the war, the Communists have worked continuously to build, maintain, and expand a complex overland logistical system capable of providing support to their forces in Laos, Cambodia, and South Vietnam. Even during the US bombing campaign in 1965-68, the system proved surprisingly durable: rapid repair and reconstruction of bombed structures and the new construction of other facilities enabled the enemy to weather the destruction and to meet logistical objectives. Since the bombing halt in the fall of 1968, the system has been improved so that at present, war-supporting supplies -- most of which are imported from other Communist countries -- are moved quickly and efficiently to dispersed storage areas throughout North Vietnam, particularly the southern part of the country, which present few lucrative targets for air attacks.

37. Improvements to the port of Haiphong now allow berthing space for some 11 ships, and congestion, once a major difficulty, has been virtually eliminated. Since 1965 the railroad network has been increased by nearly 15% to about 750 miles, and the quality and quantity of rolling stock and locomotives have been increased. The North Vietnamese are now engaged in rebuilding the rail tramway system that will extend from the Vinh area, the terminus of the main rail network, some 58 miles to a rail-to-water transshipment point about 75 miles north of the DMZ.

38. The highway network was also extended during and after the bombing. About 1,500 miles of new roads added to the network since 1965 included at

[redacted]

least six new or improved border connections to Communist China and two new connections to southern Laos. The import of [redacted] trucks annually since 1967 has been generally adequate to maintain the total truck inventory despite the heavy losses in North Vietnam and Laos.\*

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39. North Vietnam's inland water network has also been expanded and improved, and hundreds of steel-hulled barges, LCMs, and self-propelled fuel barges have been imported. North Vietnam's fleet of coastal vessels has also become a most important mode of moving supplies directly from Haiphong to the southern river ports at Vinh, Quang Khe, and Dong Hoi.

40. As mentioned earlier, the North Vietnamese have constructed and continually improved a petroleum pipeline network. The main north-south system, first observed in 1968, extends from Vinh through Mu Gia Pass into southern Laos. This system was recently linked within North Vietnam to a second system which extends from the river port at Quang Khe in a southwesterly direction into Laos west of the DMZ. The pipeline system frees a substantial number of trucks that would otherwise be needed to move petroleum into Laos and considerably reduces the vulnerability of moving petroleum to bombing

\* North Vietnam currently maintains an extensive truck park within its borders. However, precise quantification of the total inventory is difficult owing to the [redacted] uncertainties about truck losses resulting from bombing. Nevertheless, photography indicates clearly that the Communists have sufficient vehicles to maintain the war effort, and there is every reason to believe that North Vietnam's allies will continue to provide a steady flow of vehicles to maintain the truck park.

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Recent photography has identified some 40 dispersed active storage and maintenance facilities containing some 6,800 cargo trucks. Other recent photography over Hanoi and Haiphong revealed about 3,600 trucks in these two cities. Thus the 40 facilities and the two cities alone contain some 10,400 trucks. On the basis of this evidence, we estimate that the total inventory could be on the order of 15,000-20,000 trucks.

[REDACTED]

and adverse weather. The system has an estimated length of more than 250 miles and a theoretical throughput capacity of up to 2,000 tons per day. This capacity exceeds total nationwide consumption and is far in excess of present needs in the area.

41. The substantial effort made by the Communists during the past decade to maintain and improve their North Vietnam logistics base has been largely successful. Even during the bombing campaign, the rear base functioned effectively to supply forces in Laos and South Vietnam. The system is flexible and elaborate with considerable built-in redundancy, and its capacity far exceeds current use. Through 1972 it will continue to be upgraded and focused on support of out-of-country combat forces. With sustained imports of military and transport equipment from other Communist countries, the system should continue to be successful in moving supplies southward.

### Conclusions

42. Assuming a determination on its part to persist with the war in Indochina, North Vietnam's capability to do so depends heavily on sustaining a flow of men and supplies to the military fronts in Indochina. In addition to providing overall leadership, Hanoi's principal contributions to the war have been its inputs of trained military manpower and the organization and maintenance of a viable logistic system. The military supplies and war-supporting goods needed to carry on the war are provided almost exclusively by the USSR and Communist China.

43. In terms of either human or material inputs the burdens imposed on Hanoi over the past six years have been manageable and, for the most part, acceptable costs. Moreover, the resources available to North Vietnam for continuing with the war are clearly adequate to support any of the strategic options that Hanoi's leadership might choose to follow through 1972.

44. North Vietnam's manpower resources continue to be adequate and could support a considerable military expansion. At the present time, there are from 800,000 to 1.3 million physically fit men in the civilian reserves, depending on whether the age span of the pool is defined as ranging from 17 to 35 or from 15 to 39. The military induction necessary for the enemy to continue to support the low levels of fighting in the south characteristic of 1970 would result in no drawdown of this pool. The considerably larger induction necessary to support a general offensive in South Vietnam and Cambodia would cause the civilian reserve to drop by some 200,000 by the end of 1971 and by a similar amount by the end of 1972 if the high rate of induction were maintained throughout the next year. A possible limitation on Hanoi's choice of a high combat strategy during the next year or so might be the problems inherent in the annual recruitment and training of the 250,000-300,000 troops which would be required. However, the apparently high rate of induction in 1970 -- on the order of 200,000 men -- would indicate that North Vietnam may be well along in its military training program.

45. Although Hanoi has the raw capability to make an annual commitment of as much as 300,000 personnel over the next two years at least, other factors may dampen enthusiasm for such an undertaking. These include the fact that at least 600,000 North Vietnamese have already been killed in this war. In addition, an offensive strategy requiring the commitment of as many as 300,000 men would undoubtedly involve heavy casualties. We cannot judge specifically what price Hanoi would be willing to pay in manpower terms, but we doubt that it would be willing to undertake a sustained offensive throughout South Vietnam and Cambodia that cost as much as the 1968 offensives.

46. North Vietnam provides only a small part of the military and war-supporting goods needed to carry on the war -- and some of the necessary food, uniforms, and medicines. North Vietnam's economy, partially recovered from the bombing years, is fully capable of continuing this limited level of support without difficulty.

47. The major part of the supplies with which the enemy has waged war in Indochina has come from the USSR and Communist China. These countries should find little difficulty in continuing -- or even increasing -- such military and economic assistance related to the war. During 1965-70, North Vietnam's allies provided economic aid in excess of \$2 billion and military aid of a similar order of magnitude. Estimated economic aid for 1970 of \$535 million is about 14% above the 1969 level, and, while it represents a record high, it in no significant way taxes the economic capabilities of the donor countries. Military aid for 1970 -- \$155 million -- is only about one-fourth of the record high for such assistance provided.

48. Finally, the successful implementation of Hanoi's strategies will, in the future, as in the past, depend upon the enemy's ability to move supplies to the military fronts. While the enemy faces more complex logistical problems now than at any time in the past several years, it seems likely that the system, both in North Vietnam and in the Laotian Panhandle, can continue to support the requirements of the battlefields.